

DISTRIBUTION IN CERTAIN LUCANIDAE

by

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The distribution of the species of the family Lucanidae occurring in Oregon exhibit a close and interesting correlation with some biotic communities of this region. A transect running in a general est-west direction across northern Oregon cuts through a variety of communities, the author's observations including stations ranging from coastal sand and bog seres, across the Coast range forests and the Willamette, the pine forests of the Cascade range, and the forests and watercourses of the Ochoco and Blue mountains, to a wooded canyon tributary to the Burnt river in the extreme eastern part of the state. The role of the larvae of this family appears everywhere to be the same--i.e., distintergration of decaying wood--and each community in which such niches are important may be characterized by one or more species.

At Pacific City, in drift along the strand, the only lucanid found was Platycerus aeneus VanDyke, a species characteristic of the Coast forests. This is as would be expected, since the drift insects are mostly specimens which have been blown to sea by offshore winds and then washed up on the beach. In the zone of driftwood and embryonic dunes an occasional dead Platycerus keeni Casey may be found, but this area is unstable, being influenced by storms, and the soil salinity is still rather high (up to .2%). It is behind the young dunes in the zone of wandering dunes that P. keeni belongs. Such dunes may be largely held by decaying logs (species undetermined), many of which are found to be pulpy and riddled with work of Platycerus larvae and termites. As the dunes become mature and support a coniferous growth (Sitka spruce-lodgepole pine) P. keeni is no longer found. Near Sand Lake, where there is an exceptionally well developed series of old dunes, P. thoracicus Casey has been taken on the xeric faces and tops of these dunes, while P. aeneus is present in the mesic draws between the dunes (Douglas fir-Sitka spruce-hemlock). The more advanced stages of the bog sere at the head of Sand Lake approach the climax forest (Hemlock-cedar) and here also P. aeneus as well as the rarer P. laticollis Casey is found.

Both of these species, together with Ceruchus striatus LeC. characterize the extensive late sub-climax forest (Douglas fir-hemlock) of Saddle mountain near Boyer, Lincoln county, where the larvae of C. striatus have been taken in rotten hemlock logs and those of the Platycerus in humus and soil samples as well as rotten hemlock logs. The occurrence of the larvae in soil is possibly accounted for by the fact that the soil here may contain fragments of rotten wood of hemlock and Douglas fir.

On the eastern slopes of the Coast range as exemplified by

Peavine Ridge and Baker Creek valley near McMinnville, the Douglas Fir-hemlock forests have been much disturbed by logging. Here deciduous trees, especially large-leaf and vine maples and alder along the streams, come into prominence and Platycerus oregonensis Westwood is characteristic. The author has taken larvae of this species in rotten wood of Acer macrophyllum. In the oak savannah of the lower hills and in the farm and pasture lands of the valley floor, Sinodendron rugosum Mann. occurs. It has been reported from oak, alder and willow and the author has also found it associated with aged cherry trees. Along the Willamette river at Dayton (ash-willow-cottonwood) Platycerus marginalis Casey is characteristic and in the valley wood lots, which are the same forest type as the eastern Coast range slope, F. oregonensis again appears. On the west slope of the Cascades above Stayton, a location that is very similar to the Willamette valley as a whole but which has some Cascade elements and is well above the valley floor, P. viriditinctus Benesh has been taken. This species is yet known only from the types.

In the Mt. Hood national forest along the Wapinitia cut-off highway Cerchus punctatus LeC. represents this family, here being found in ponderosa pine logs.

At Maupin, in the Ochoco and Blue mountains, and at Durkee in the extreme eastern part of the state, P. marginalis again is taken. Aside from the occurrence here of Populus, the host tree, other coleoptera indicate a closer relationship between these areas and the Willamette flood plain than would be suspected from their wide geographical separation. The latter location in particular represents, in a cool canyon along Cave creek, a small Douglas fir woods area strikingly resembling Willamette valley woods.

Although each of the above biotic communities is characterized by a multiplicity of floral and faunal elements, the Lucanidae, being closely associated with key species of trees in each, themselves may stand as community indicators.

NEWS

During Spring Quarter 1948 Dr. Melville H. Hatch is giving an informal seminar in the study of the Coleoptera at the University of Washington. Such topics as the nature of the taxonomic categories, the rules of nomenclature, bibliographic methods, coleopterological literature, the origin and evolution of the Coleoptera, and the history of coleopterology are being discussed.